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Agricultural Memorandum No. 467

Expectancy of Heavy Winter Rainfall - NORTHEAST ENGLAND

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Long term records of 39 rainfall stations in the northeast were examined to determine the probable heaviest falls in 1 year, 2 years, 10 years over 1 and 5 days. Rainfall in millimetres. Period November to April.

Results

County	No. of Stations	Mean Annual Rainfall	Heaviest falls in 1 day			Heaviest falls in 5 days		
			1 year	2 years	10 years	1 year	2 years	10 years
Northumberland	10	792	21.4	26.1	34.4	41.8	50.4	67.4
Durham	4	791	21.3	26.0	36.5	43.5	52.3	71.7
N.R	10	729	19.8	23.7	32.8	39.2	47.2	63.0
E.R	5	662	18.6	22.0	28.6	35.4	41.6	52.2
W.R	10	807	23.5	28.9	38.2	47.4	56.1	70.7

Combining & re-analysing:-

Rainfall Range	No. of Stations	Mean Annual Rainfall	Heaviest falls in 1 day			Heaviest falls in 5 days		
			1 year	1 years	10 years	1 year	2 years	10 years
Below 650	7	622	17.7	22.0	29.9	34.1	40.7	53.4
650 - 725	10	682	18.9	22.3	29.8	36.7	43.6	57.9
725 - 800	11	752	21.4	26.4	34.9	42.0	50.5	66.4
800 - 900	6	862	23.3	28.0	36.3	47.0	55.7	74.8
over 900	5	1027	27.4	33.2	44.4	57.0	68.8	85.4

These results can be smoothed for the combined area; County corrections can be used to adjust for regional differences

Average Annual Rainfall	Heaviest falls in 1 day			Heaviest falls in 5 days		
	1 year	2 years	10 years	1 year	2 years	10 years
550	16.1	19.5	26.1	29.8	35.3	48.0
600	17.3	20.9	28.0	32.7	38.8	52.1
650	18.5	22.4	29.9	35.5	42.3	56.2
700	19.7	23.9	31.8	38.3	45.8	60.3
750	20.9	25.3	33.7	41.2	49.3	64.4
800	22.1	26.7	35.6	44.1	52.8	68.5
850	23.3	28.2	37.5	46.9	56.3	72.6
900	24.5	29.7	39.4	49.7	59.8	76.7
950	25.7	31.1	41.3	52.6	63.3	80.8
1000	26.9	32.5	43.2	55.5	66.8	84.9
County Corrections						
Northumberland	-0.4	-0.4	-0.9	-1.8	-1.8	-0.5
Durham	-0.6	-0.5	+1.2	0	+0.2	+3.9
N.R	-0.5	-1.0	-1.1	-1.0	-0.6	+0.2
E.R	-0.1	-0.7	-1.8	-0.8	-1.5	-5.0
W.R	+1.3	+2.0	+2.4	+3.0	+2.8	+1.6

The accuracy of the corrections is limited by the number of the stations in the county.

Any comments or suggestions on this paper should be referred to the author.

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